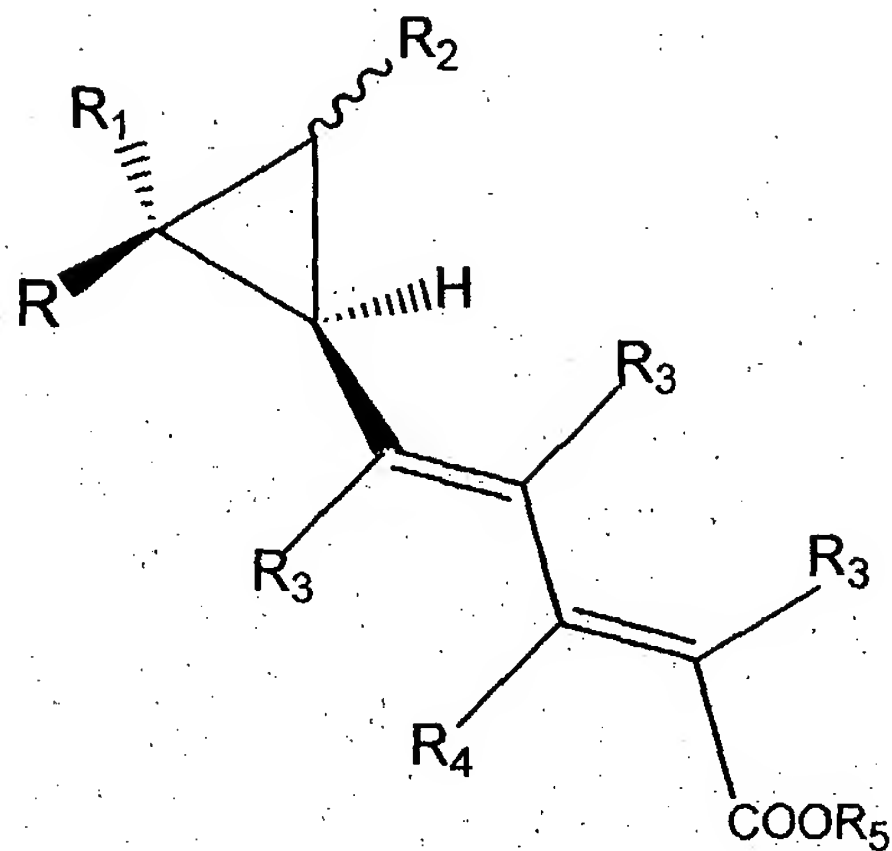


## WHAT IS CLAIMED IS:

1. A compound of the formula



where a wavy line represents a bond in the up or in the down configuration,

a dashed arrow represents a bond in the down configuration,

a solid arrow represents a bond in the up configuration,

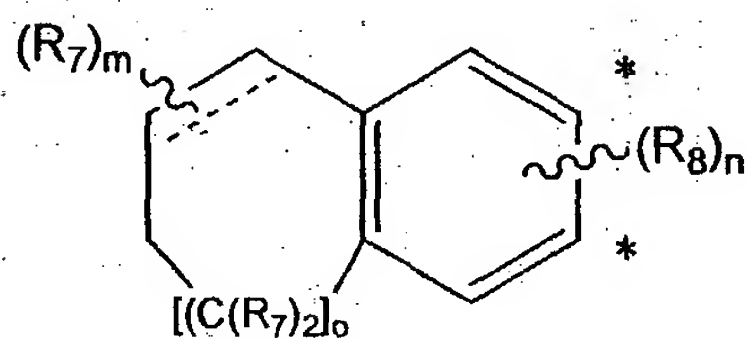
R<sub>1</sub> is H, methyl, or ethyl, fluoro-substituted methyl or fluoro-substituted ethyl;

R<sub>2</sub> is *normal* alkyl of 1 to 4 carbons, fluoro-substituted *normal* alkyl of 1 to 4 carbons, CH<sub>2</sub>OCH<sub>3</sub>, CH<sub>2</sub>-O-CH<sub>2</sub>-CH<sub>3</sub>, CH<sub>2</sub>-O-CH<sub>2</sub>-OCH<sub>3</sub>, CH<sub>2</sub>-O-CH<sub>3</sub>, CH<sub>2</sub>SCH<sub>3</sub>, CH<sub>2</sub>-S-CH<sub>2</sub>-CH<sub>3</sub>, CH<sub>2</sub>-S-CH<sub>2</sub>-OCH<sub>3</sub>, CH<sub>2</sub>-S-CH<sub>3</sub>, CH<sub>2</sub>-S-CH<sub>2</sub>-S-CH<sub>3</sub>, CH<sub>2</sub>-O-CH<sub>2</sub>-S-CH<sub>3</sub>, CH<sub>2</sub>NHCH<sub>3</sub>, CH<sub>2</sub>-NH-CH<sub>2</sub>-CH<sub>3</sub>, CH<sub>2</sub>-NH-CH<sub>2</sub>-OCH<sub>3</sub>, CH<sub>2</sub>-CH<sub>2</sub>-NH-CH<sub>3</sub>, O-CH<sub>2</sub>-NHCH<sub>3</sub>;

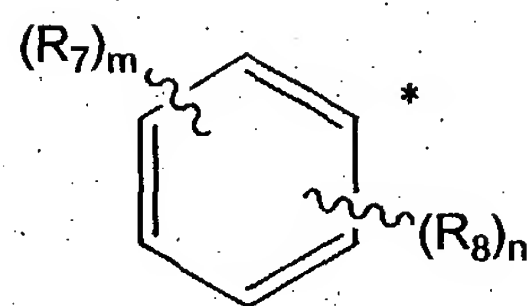
R<sub>3</sub> is H or F;

R<sub>4</sub> is H, alkyl of 1 to 3 carbons;

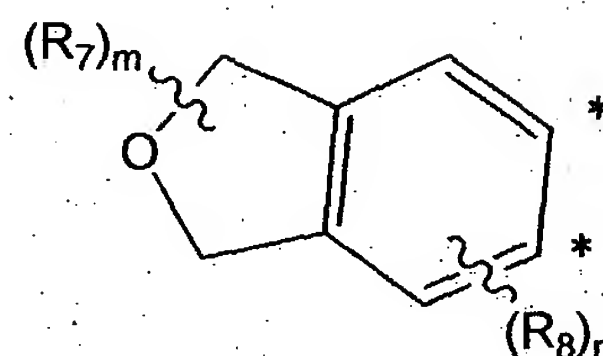
- 1  $R_5$  is H, alkyl of 1 to 6 carbons,  $OCH_2OR_6$  or  $OCH_2OCOR_6$  where  $R_6$   
 2 is alkyl of 1 to 3 carbons, and  
 3  $R$  is selected from the groups consisting of the radicals defined by  
 4 **formulas (a) through (f)**



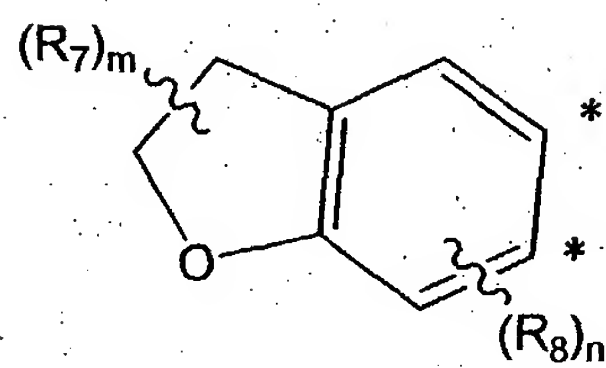
Formula (a)



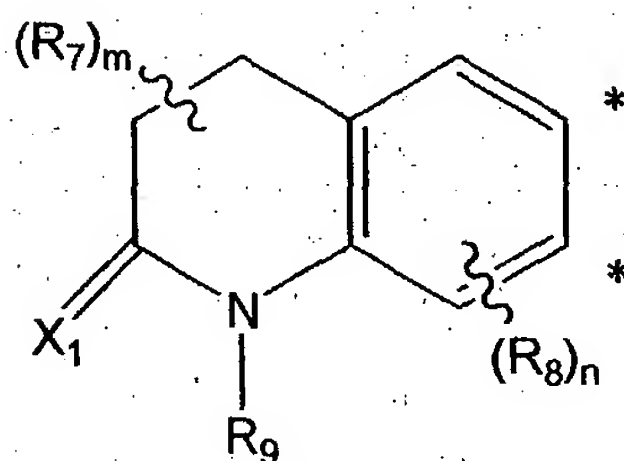
Formula (b)



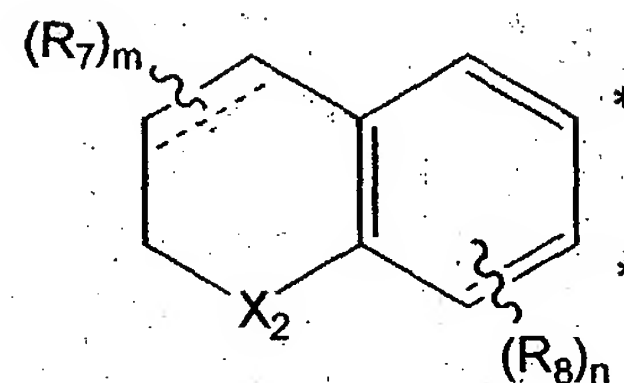
Formula (c)



Formula (d)



Formula (e)



Formula (f)

- 5 where the dashed line in a ring represents a bond, or absence of a  
 6 bond,  
 7 a \* denotes a ring carbon to which the pentadienoyl-cyclopropyl  
 8 group is attached, with the proviso that the pentadienoyl-cyclopropyl group  
 9 is attached to only one carbon on the ring;  
 10

- 11  $X_1$  is O or S attached to the adjacent carbon with a double bond, or  $X_1$   
 12 represents two hydrogens or  $R_7$  groups attached to the adjacent carbon;  
 13

- 14  $X_2$  is O or S;

- 15  $m$  is an integer having the values 0 to 6;

- 16  $n$  is an integer having the values 0 to 3;

- 17  $o$  is an integer having the values 0 or 1;

- 18  $R_7$  is independently H, alkyl of 1 to 6 carbons, F, Cl, Br or I;

1         $R_8$  is independently H, alkyl of 1 to 6 carbons, F, Cl, Br, I,  $OC_{1-6}$ alkyl  
2 or  $SC_{1-6}$ alkyl,

3         $R_9$  is H or alkyl of 1 to 6 carbons, or a pharmaceutically acceptable  
4 salt of said compound.

5        2. A compound in accordance with Claim 1 where  $R_2$  is  $CH_2OCH_3$   
6 or  $CH_2OCH_2CH_3$ .

7        3. A compound in accordance with Claim 1 where  $R_7$  is alkyl of 1  
8 to 6 carbons.

9        4. A compound in accordance with Claim 1 where  $R_8$  is H or alkyl  
10 of 1 to 6 carbons.

11       5. A compound in accordance with Claim 1 where  $R$  is represented  
12 by **formula (a)**.

13       6. A compound in accordance with Claim 5 where the dashed line  
14 in **formula (a)** represents absence of a bond, and where  $o$  is one (1).

15       7. A compound in accordance with Claim 6 where  $R_2$  is  $CH_2OCH_3$   
16 or  $CH_2OCH_2CH_3$ .

17       8. A compound in accordance with Claim 6 where  $R_7$  is alkyl of 1 to  
18 6 carbons.

19       9. A compound in accordance with Claim 6 where  $R_8$  is H or alkyl  
20 of 1 to 6 carbons.

21       10. A compound in accordance with Claim 1 where  $R$  is  
22 represented by **formula (b)**.

23       11. A compound in accordance with Claim 10 where  $R_2$  is  
24  $CH_2OCH_3$  or  $CH_2OCH_2CH_3$ .

25       12. A compound in accordance with Claim 10 where  $R_7$  is alkyl of 1  
26 to 6 carbons.

1        **13.** A compound in accordance with Claim 10 where  $R_8$  is H or  
2 alkyl of 1 to 6 carbons.

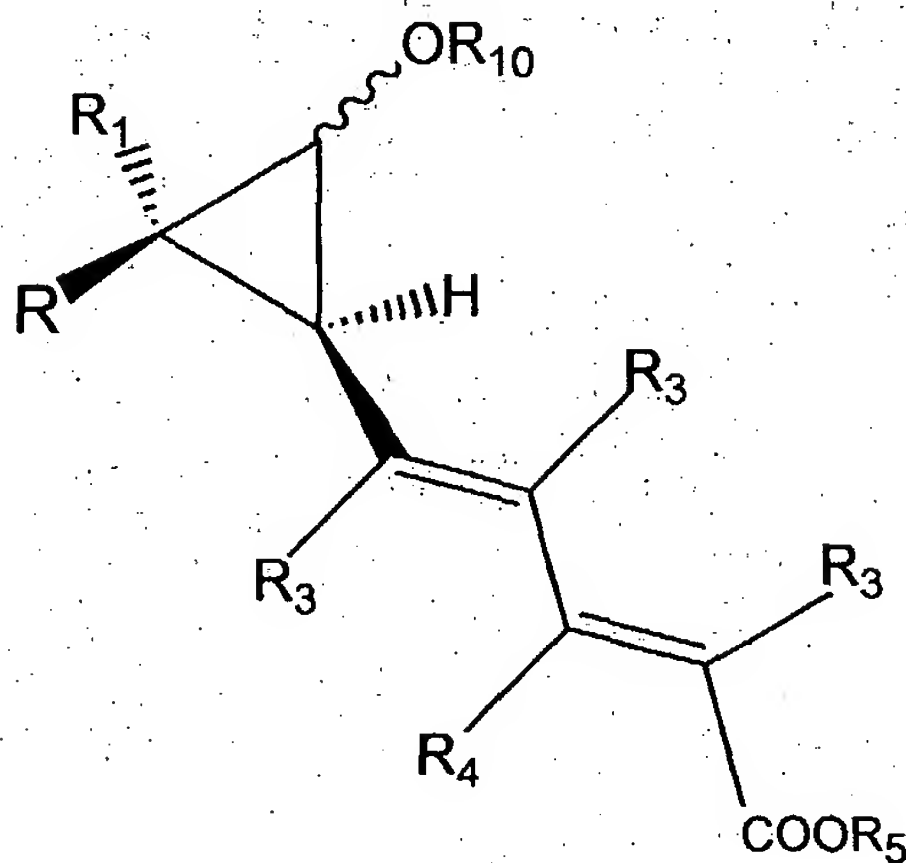
3        **14.** A compound in accordance with Claim 1 where  $R$  is represented  
4 by **formula (c)**.

5        **15.** A compound in accordance with Claim 1 where  $R$  is represented  
6 by **formula (d)**.

7        **16.** A compound in accordance with Claim 1 where  $R$  is represented  
8 by **formula (e)**.

9        **17.** A compound in accordance with Claim 1 where  $R$  is represented  
10 by **formula (f)**.

11       **18.** A compound of the formula



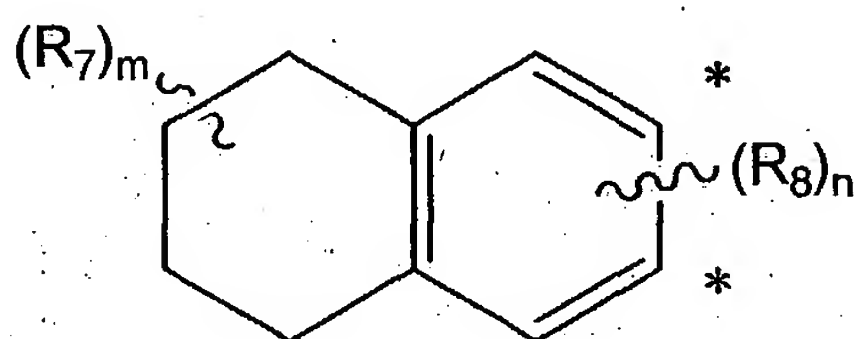
12  
13       where a wavy line represents a bond in the up or in the down  
14 configuration,

15       a dashed arrow represents a bond in the down configuration,  
16       a solid arrow represents a bond in the up configuration,

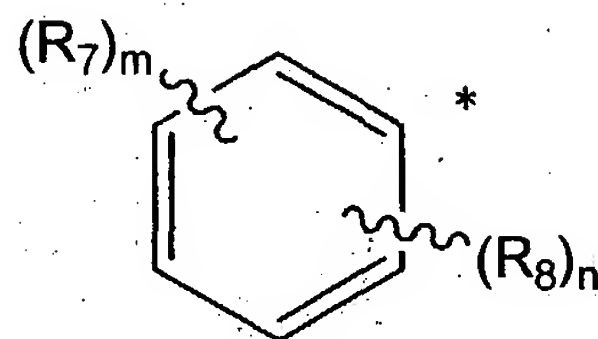
17        $R_1$  is H, methyl, or ethyl, fluoro-substituted methyl or fluoro-  
18 substituted ethyl;

19        $R_{10}$  is  $CH_3$ ,  $CH_2-CH_3$ , or  $CH_2-OCH_3$ ,

- 1         $R_3$  is H or F;  
 2         $R_4$  is H, alkyl of 1 to 3 carbons;  
 3         $R_5$  is H, alkyl of 1 to 6 carbons,  $OCH_2OR_6$  or  $OCH_2OCOR_6$  where  $R_6$   
 4        is alkyl of 1 to 3 carbons, and  
 5         $R$  is selected from the groups consisting of the radicals defined by  
 6        formulas (g) and (h)

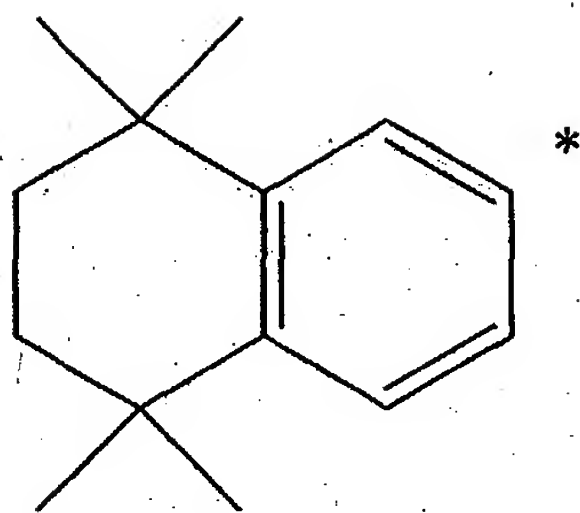


formula (g)



formula (h)

- 7        where a \* denotes a ring carbon to which the pentadienoyl-  
 8        cyclopropyl group is attached, with the proviso that the pentadienoyl-  
 9        cyclopropyl group is attached to only one carbon on the ring;  
 10         $m$  is an integer having the values 0 to 8;  
 11         $n$  is an integer having the values 0 to 3;  
 12         $R_7$  is independently H, alkyl of 1 to 6 carbons, F, Cl, Br or I;  
 13         $R_8$  is independently H, alkyl of 1 to 6 carbons, F, Cl, Br, I,  $OC_{1-6}$ alkyl  
 14        or  $SC_{1-6}$ alkyl, or a pharmaceutically acceptable salt of said compound.  
 15        19. A compound in accordance with Claim 18 where  $R$  is represented  
 16        by formula (g).  
 17        20. A compound in accordance with Claim 19 where  $R$  is represented  
 18        by the formula  
 19



1

2

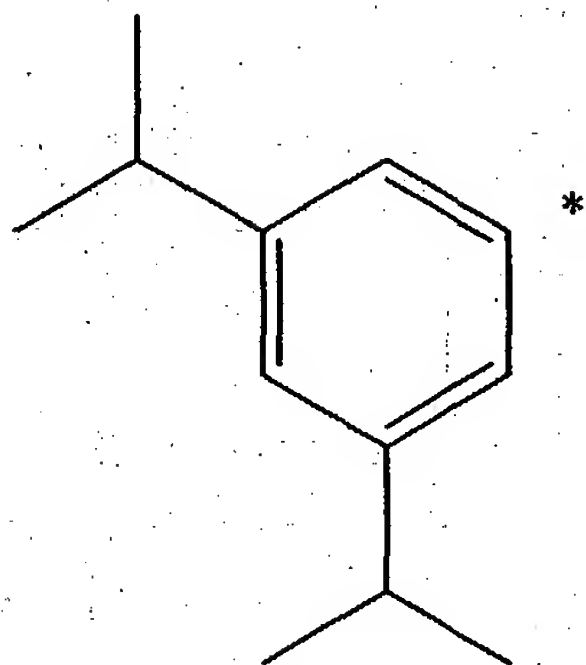
3

where the \* denotes a ring carbon to which the pentadienoyl-

4

5

**21.** A compound in accordance with Claim 18 where **R** is represented  
by the formula



6

7

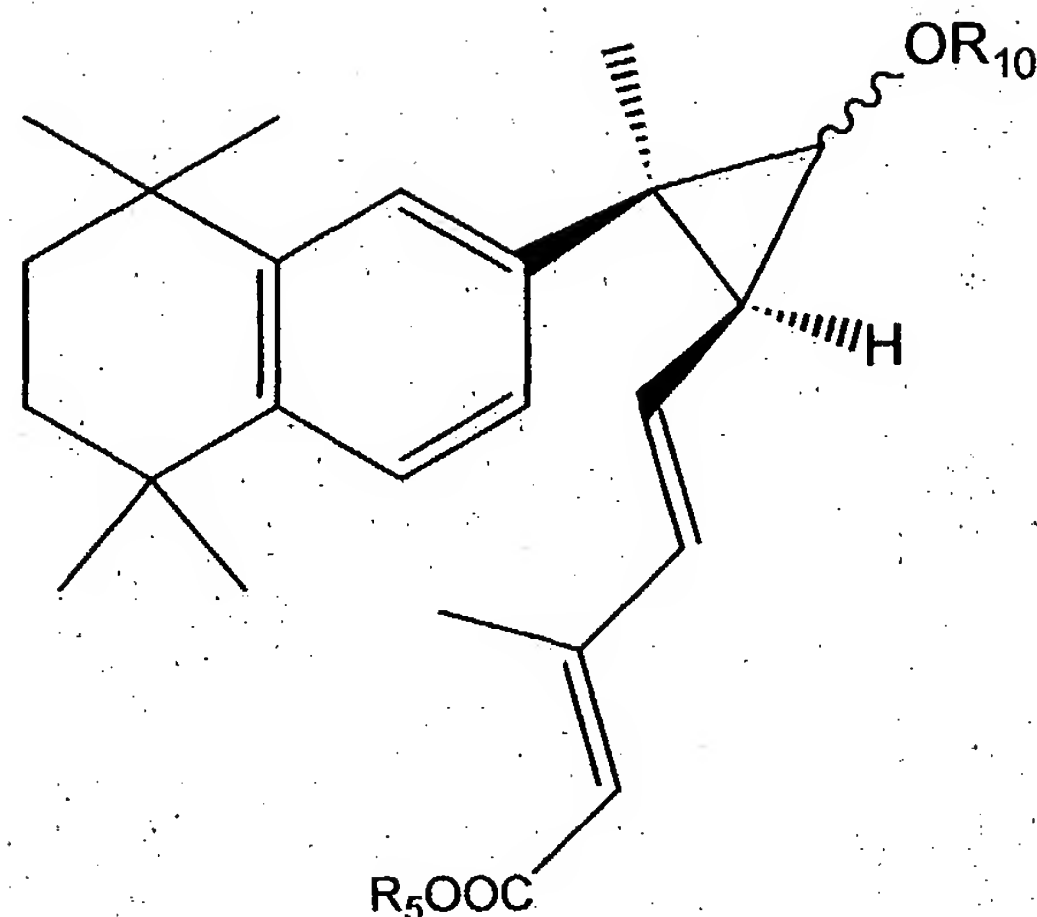
8

where the \* denotes a ring carbon to which the pentadienoyl-

9

10

**22.** A compound of the formula



where a wavy line represents a bond in the up or in the down configuration,

a dashed arrow represents a bond in the down configuration,

a solid arrow represents a bond in the up configuration,

$R_{10}$  is methyl or ethyl, and

$R_5$  is H, alkyl of 1 to 6 carbons,  $OCH_2OR_6$  or  $OCH_2OCOR_6$  where  $R_6$  is alkyl of 1 to 3 carbons, or a pharmaceutically acceptable salt of said compound.

**23.** A compound in accordance with Claim 22 where the wavy line represents a bond in the up configuration.

**24.** A compound in accordance with Claim 23 where  $R_{10}$  is methyl.

**25.** A compound in accordance with Claim 24 where  $R_5$  is H, ethyl, or a pharmaceutically acceptable salt of said compound.

**26.** A compound in accordance with Claim 23 where  $R_{10}$  is ethyl.

**27.** A compound in accordance with Claim 26 where  $R_5$  is H, ethyl, or a pharmaceutically acceptable salt of said compound.

**28.** A compound in accordance with Claim 22 where the wavy line represents a bond in the down configuration.



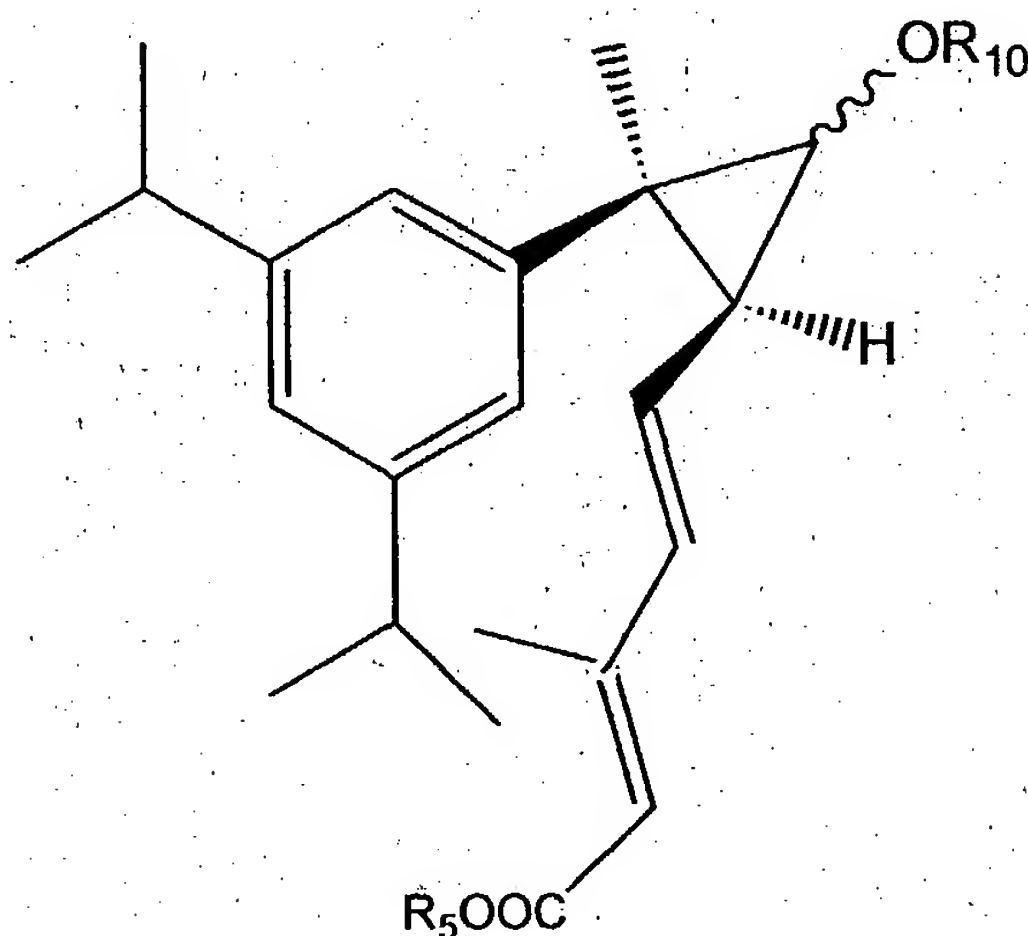
1        **29.** A compound in accordance with Claim 28 where  $R_{10}$  is methyl.

2        **30.** A compound in accordance with Claim 29 where  $R_5$  is H, ethyl, or  
3 a pharmaceutically acceptable salt of said compound.

4        **31.** A compound in accordance with Claim 28 where  $R_{10}$  is ethyl.

5        **32.** A compound in accordance with Claim 31 where  $R_5$  is H, ethyl, or  
6 a pharmaceutically acceptable salt of said compound.

7        **33.** A compound of the formula



8  
9        where a wavy line represents a bond in the up or in the down  
10 configuration,

11        a dashed arrow represents a bond in the down configuration,

12        a solid arrow represents a bond in the up configuration,

13         $R_{10}$  is methyl or ethyl, and

14         $R_5$  is H, alkyl of 1 to 6 carbons,  $OCH_2OR_6$  or  $OCH_2OCOR_6$  where  $R_6$   
15 is alkyl of 1 to 3 carbons, or a pharmaceutically acceptable salt of said  
16 compound.

17        **34.** A compound in accordance with Claim 33 where the wavy line  
18 represents a bond in the up configuration.

19        **35.** A compound in accordance with Claim 34 where  $R_{10}$  is methyl.



36. A compound in accordance with Claim 35 where  $R_5$  is H, ethyl, or a pharmaceutically acceptable salt of said compound.

37. A compound in accordance with Claim 34 where  $R_{10}$  is ethyl.

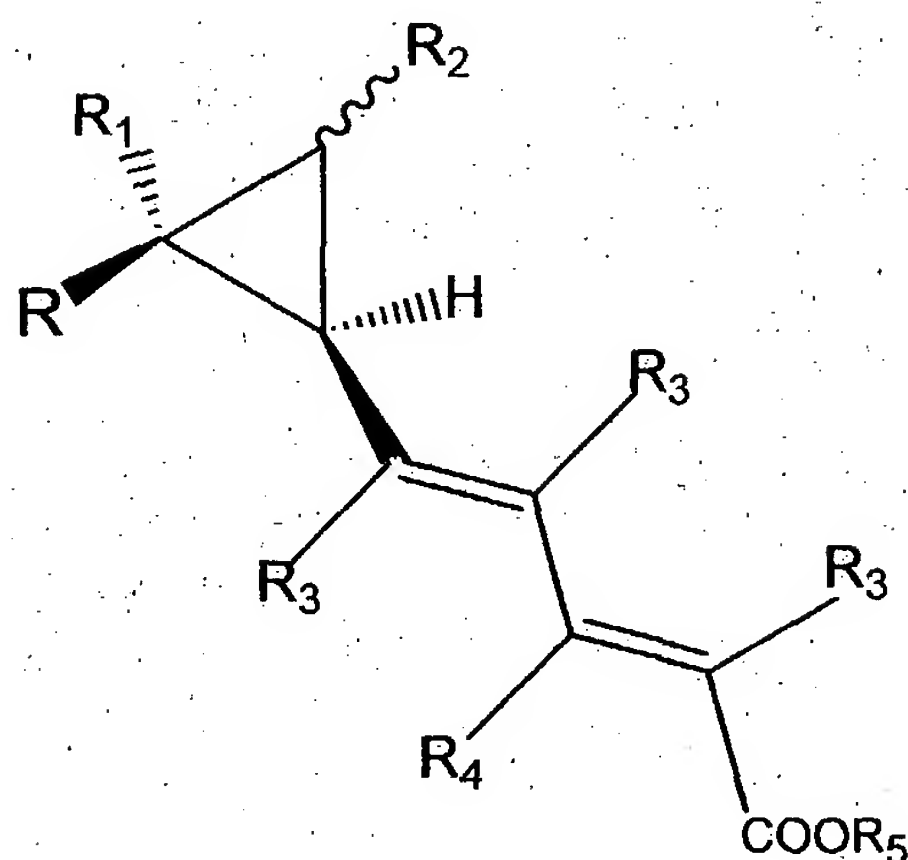
38. A compound in accordance with Claim 37 where  $R_5$  is H, ethyl, or a pharmaceutically acceptable salt of said compound.

39. A compound in accordance with Claim 33 where the wavy line represents a bond in the down configuration.

40. A compound in accordance with Claim 39 where  $R_{10}$  is methyl.

41. A compound in accordance with Claim 40 where  $R_5$  is H, ethyl, or a pharmaceutically acceptable salt of said compound.

42. A process for administering to a diabetic mammal to reduce the serum glucose level of said mammal a compound of the formula



where a wavy line represents a bond in the up or in the down configuration,

a dashed arrow represents a bond in the down configuration,

a solid arrow represents a bond in the up configuration,

1  $R_1$  is H, methyl, or ethyl, fluoro-substituted methyl or fluoro-  
 2 substituted ethyl;

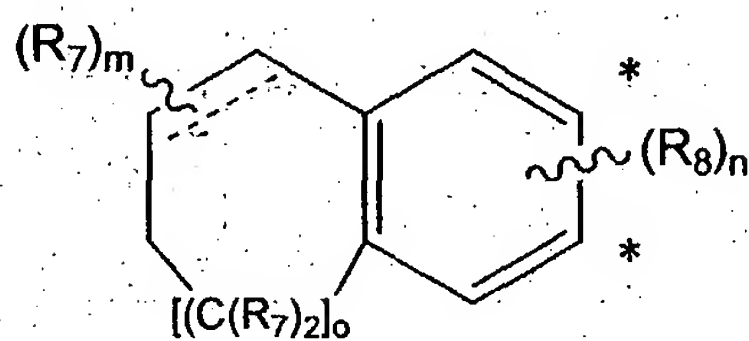
3  $R_2$  is *normal* alkyl of 1 to 4 carbons, fluoro-substituted *normal* alkyl  
 4 of 1 to 4 carbons,  $CH_2OCH_3$ ,  $CH_2-O-CH_2-CH_3$ ,  $CH_2-O-CH_2-OCH_3$ ,  $CH_2-$   
 5  $CH_2-O-CH_3$ ,  $CH_2SCH_3$ ,  $CH_2-S-CH_2-CH_3$ ,  $CH_2-S-CH_2-OCH_3$ ,  $CH_2-$   
 6  $CH_2-S-CH_3$ ,  $CH_2-S-CH_2-S-CH_3$ ,  $CH_2-O-CH_2-S-CH_3$ ,  $CH_2NHCH_3$ ,  $CH_2-$   
 7  $NH-CH_2-CH_3$ ,  $CH_2-NH-CH_2-OCH_3$ ,  $CH_2-CH_2-NH-CH_3$ ,  $CH_2-$   
 8  $O-CH_2-NHCH_3$ ;

9  $R_3$  is H or F;

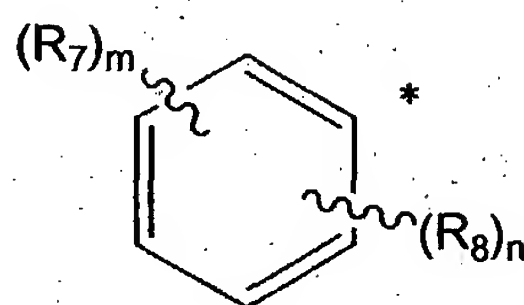
10  $R_4$  is H, alkyl of 1 to 3 carbons;

11  $R_5$  is H, alkyl of 1 to 6 carbons,  $OCH_2OR_6$  or  $OCH_2OCOR_6$  where  $R_6$   
 12 is alkyl of 1 to 3 carbons, and

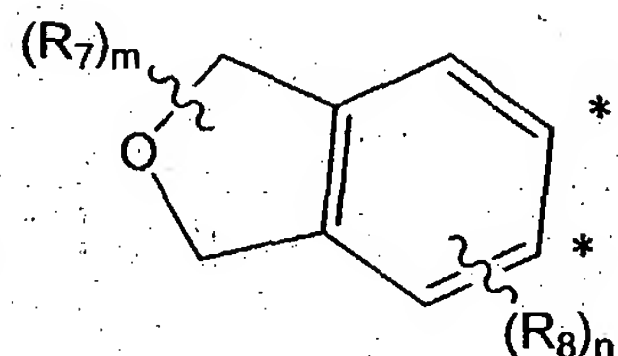
13  $R$  is selected from the groups consisting of the radicals defined by  
 14 **formulas (a) through (f)**



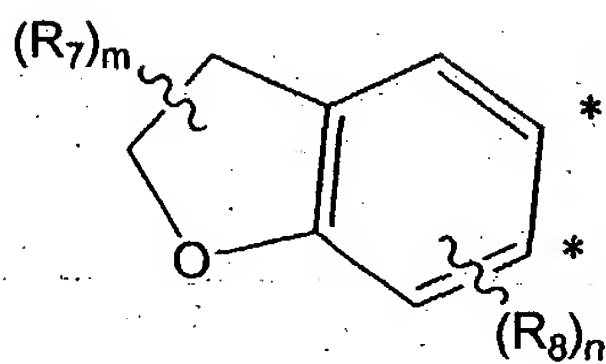
Formula (a)



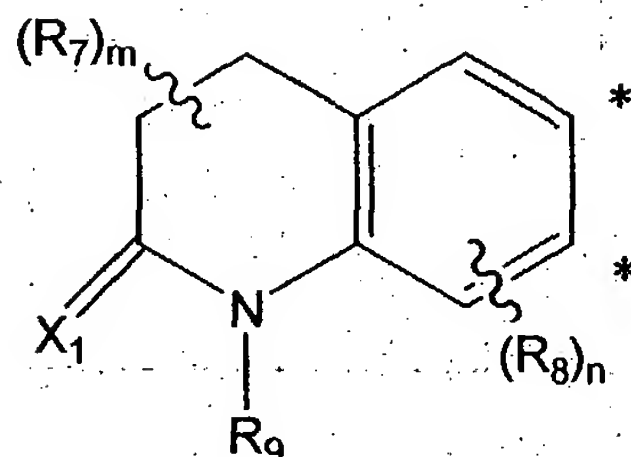
Formula (b)



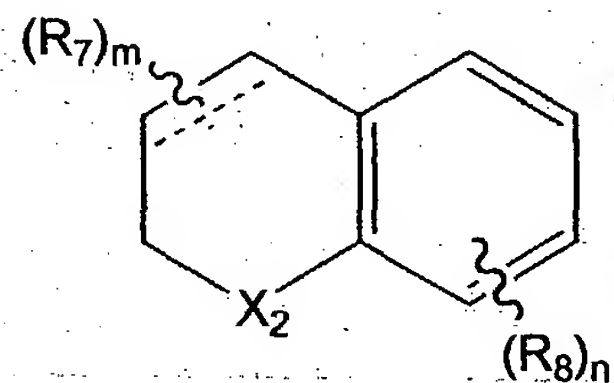
Formula (c)



Formula (d)



Formula (e)



Formula (f)

15 where the dashed line in a ring represents a bond, or absence of a  
 16 bond,  
 17  
 18

a \* denotes a ring carbon to which the pentadienoyl-cyclopropyl group is attached, with the proviso that the pentadienoyl-cyclopropyl group is attached to only one carbon on the ring;

$X_1$  is O attached to the adjacent carbon with a double bond, or  $X_1$  represents two hydrogens, or  $R_7$  groups attached to the adjacent carbon;

$X_2$  is O or S;

$m$  is an integer having the values 0 to 6;

$n$  is an integer having the values 0 to 3;

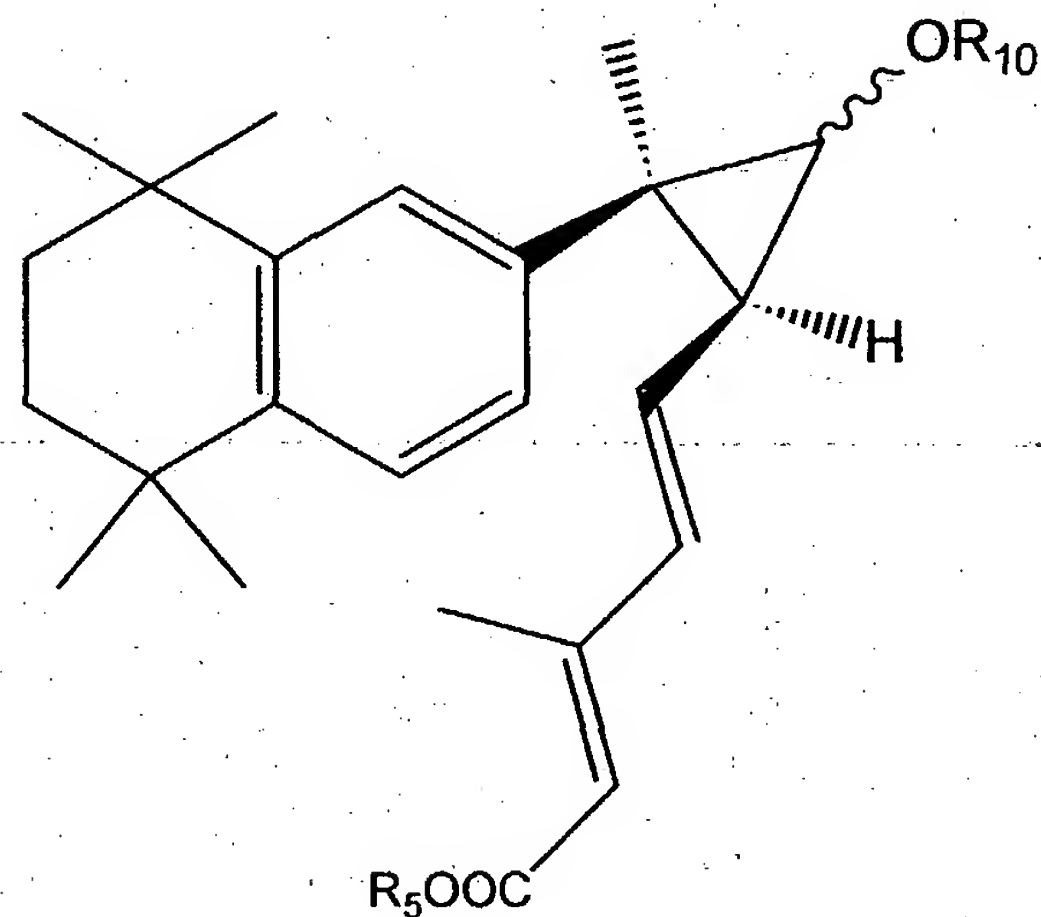
$o$  is an integer having the values 0 or 1;

$R_7$  is independently H, alkyl of 1 to 6 carbons, F, Cl, Br or I;

$R_8$  is independently H, alkyl of 1 to 6 carbons, F, Cl, Br, I,  $OC_{1-6}$ alkyl or  $SC_{1-6}$ alkyl,

$R_9$  is H or alkyl of 1 to 6 carbons, or a pharmaceutically acceptable salt of said compound.

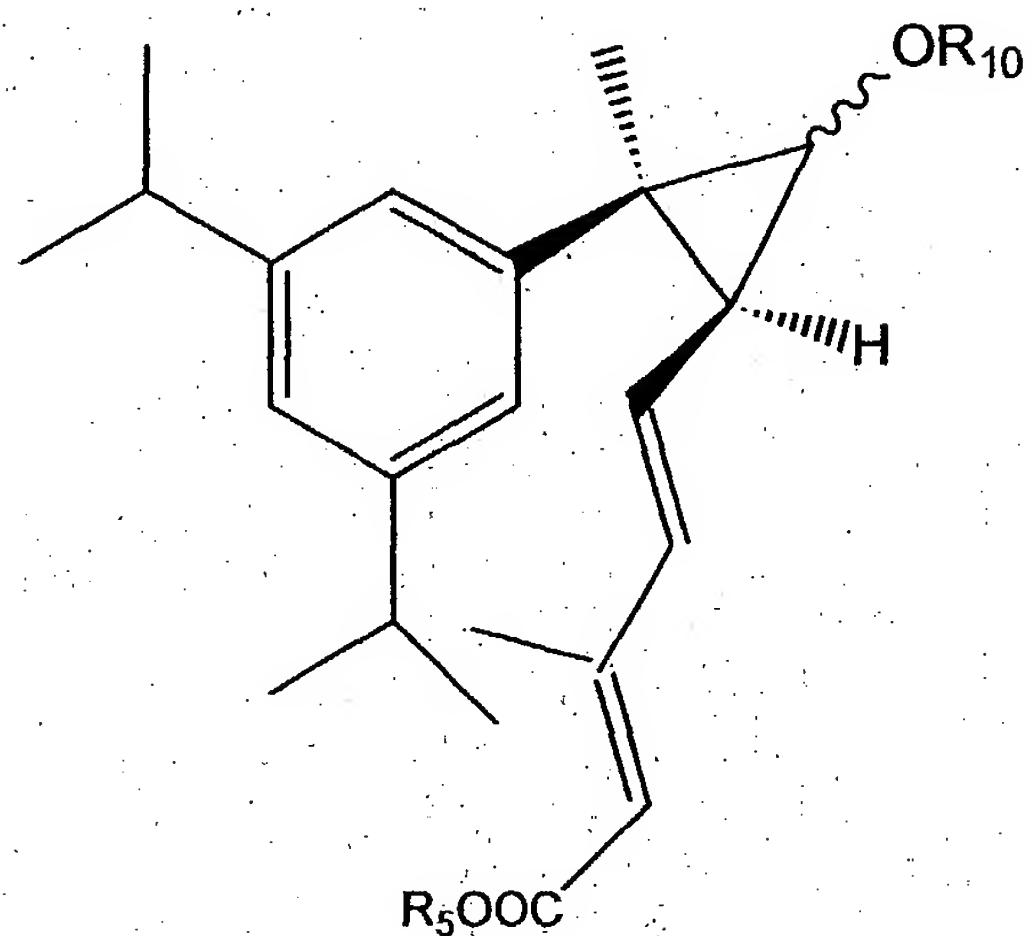
**43.** A process in accordance with Claim 42 where the compound used in the process is in accordance with the formula



1 where  $R_{10}$  is methyl or ethyl.

2 **44.** A process in accordance with Claim 42 where the compound used  
 3 in the process is in accordance with the formula

4



5

6 where  $R_{10}$  is methyl or ethyl.

7

8